

**REMARKS**

Claims 1-28 are pending in this application.

In the Office Action, the Examiner objected to claim 18, which further defines “the bleaching step”, for being incorrectly dependent from claim 1, rather than from claim 17, where the step of “bleaching” is recited. In response, Applicants have corrected this dependency such that claim 18 is now dependent from claim 17, and this objection should now be withdrawn.

The Examiner rejected claims 1-28 under 35 U.S.C. §112, first paragraph, as being based on a non-enabling disclosure. According to the Examiner, independent claims 1 and 12 fail to recite that the cooked pulp is hydrolyzed to form microcrystalline cellulose without the use of any mineral acids, which step the Examiner asserts is essential to the practice of the invention. The Examiner contends that not including this step in the claim is not enabled by the disclosure. In response, Applicants have amended claims 1 and 12 so that they now recite that the claimed process occurs in the absence of any mineral acids. This rejection should now be withdrawn.

The Examiner also rejected claims 1-28 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. According to the Examiner, step (b) of claims 1 and 12 is not complete, since the step of pressing of the pulp should further state that it is for removing water. In addition, as discussed above, claim 18 contains insufficient antecedent basis for the limitation “the bleaching step” in line 1. In response, Applicants have amended claims 1 and 12 to clarify that step (b) is for the purpose of removing water, and have amended claim 18 to properly depend from claim 17 wherein the step of “bleaching” is recited. Accordingly, these rejections should be withdrawn.

Further, the Examiner rejected claims 1-3 and 5-28 under 35 U.S.C §103(a) as being obvious over U.S. Patent No. 3,954,727 (Toshkov et al.) in view of International Publication No. WO 99/60027 (Jollez) and further in view of U.S. Patent No. 5,074,960 (Nimz). With regard to claims 1 and 11-12, the Examiner states that the combination of Toshkov’s and Jollez’s processes of preparing microcrystalline cellulose and Nimz’s process of preparing alpha-

cellulose makes these claims obvious. The Examiner alleges that the limitations of claims 2-3, 5-10 and 13-28 are taught by either Toshkov et al. or Jollez.

The Examiner also rejected claim 4 under 35 U.S.C. §103(a) as being obvious over Toshkov et al. in view of Jollez and Nimz and further in view of U.S. Patent No. 6,228,213 (Hanna). According to the Examiner, the combination of Toshkov et al. in view of Jollez and Nimz discloses the drying step but fails to disclose that the drying is performed with a spray dryer, and Hanna discloses the process of making pharmaceutical grade microcrystalline cellulose wherein drying of the microcrystalline cellulose is performed using a spray dryer.

Applicant traverses the Examiner's rejections.

The process of preparing microcrystalline cellulose as disclosed in Toshkov et al. includes the chemical de-aggregation of the intermediate cellulose product, which chemical de-aggregation process is preferably performed with a dilute sulphuric acid having a concentration of 1% (see Toshkov et al. at column 2, lines 3-7). Moreover, both Examples 1 and 2 of Toshkov et al. require the presence of a 1% solution of sulphuric acid (see Example 1 at col. 2, line 28, and Example 2 at col. 2, line 43). No embodiment of the process of preparing microcrystalline cellulose as disclosed in Toshkov et al. does not include the presence of sulphuric acid. By contrast, the process of preparing microcrystalline cellulose of the present invention does not necessitate the use of any mineral acids or sulphuric acid, as specifically stated at (page 2, lines 10-12, at page 5, lines 1-10, and at page 14, line 25 ). In order to clarify this distinction, Applicants have amended claims 1 and 12 to specify that the claimed process of preparing microcrystalline cellulose occurs in the absence of any mineral acids or sulphuric dioxide.

Furthermore, the process of making high purity microcrystalline cellulose as disclosed in Jollez includes the step of subjecting the intermediate pulp to heating through a steam explosion treatment in order to obtain a treated pulp (see Jollez, for example at Abstract, lines 3-4; page 4, lines 4-7; page 5, lines 1-2; and page 8, lines 7-12). Moreover, both examples in Jollez involve the step of steam explosion. No embodiment of the process of making high purity microcrystalline cellulose as disclosed in Jollez does not include the step of steam explosion. By

contrast, the process of preparing microcrystalline cellulose of the present invention does not involve the use of a steam explosion, as specifically stated at (page 1, lines 14-18, at page 3, line 25 - page 4, line 7, and at page 15, lines 11-19). In order to clarify this distinction, Applicants have amended claims 1 and 12 to specify that the claimed process of preparing microcrystalline cellulose occurs in the absence of a violent non-selective depressurization, i.e., a steam explosion.

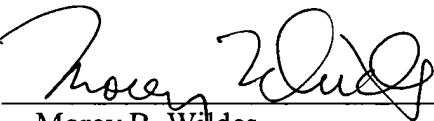
Therefore, neither Toshkov et al. nor Jollez teaches the process of the claimed invention, either alone or in combination. Both the use of a sulphuric acid, as required in the process of Toshkov et al., and the use of a steam explosion, as required in the process of Jollez, are specifically excluded in the amended claims. As such, the invention of claims 1-28 cannot be rendered obvious by the Toshkov et al. and Jollez references, both of which require steps that are specifically excluded in the claimed invention. Accordingly, Applicants respectfully request that the Examiner withdraw his rejections of claims 1-28.

### **Conclusion**

Reconsideration of the present application, as amended, is requested. If, upon review, the Examiner is unable to issue an immediate Notice of Allowance, the Examiner is respectfully requested to telephone Applicant's undersigned attorney in order to resolve any outstanding issues and advance the prosecution of the case.

An early and favorable action on the merits is earnestly solicited.

Respectfully Submitted,  
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